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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/977,137A

DATE: 10/09/2002

TIME: 07:27:03

Input Set : A:\79-00.app

Output Set: N:\CRF4\10092002\I977137A.raw

3 <110> APPLICANT: Summers, Anne O.  
 4 Caguiat, Jonathan  
 6 <120> TITLE OF INVENTION: Metal Binding Proteins, Recombinant Host Cells and  
 7 Methods  
 9 <130> FILE REFERENCE: 79-00  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/977,137A  
 12 <141> CURRENT FILING DATE: 2001-10-12  
 14 <150> PRIOR APPLICATION NUMBER: US 60/240,465  
 15 <151> PRIOR FILING DATE: 2000-10-12  
 17 <160> NUMBER OF SEQ ID NOS: 18  
 19 <170> SOFTWARE: PatentIn Ver. 2.0  
 21 <210> SEQ ID NO: 1  
 22 <211> LENGTH: 435  
 23 <212> TYPE: DNA  
 24 <213> ORGANISM: Shigella flexneri, Tn21 of Plasmid R100  
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 28 gtggagacaa tccgcttcta tcagcgcaag ggcctgttgc gggaaccgga caagccttac 120  
 29 ggcagcatcc gccgctatgg ggagggcgac gtgggttcggg tgaaattcgt gaaatcggca 180  
 30 cagcggctgg ggttcagtct ggacgagatt gccgagctgt tgcggctcga cgatggcacc 240  
 31 cactgcgagg aggcacgag cctggccgaa cacaagctca aggacgtgcg cgagaagatg 300  
 32 gccgacttgg cgcgcatgga aaccgtgctg tctgaactcg tgtgcgctg ccatgcacga 360  
 33 aaggggaatg ttctctgccc gttgatcgcg tcactacagg gcgaagcagg cctggcaagg 420  
 34 tcagctatgc cttag 435  
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 37 <211> LENGTH: 144  
 38 <212> TYPE: PRT  
 39 <213> ORGANISM: Shigella flexneri, Tn21 of Plasmid R100  
 41 <400> SEQUENCE: 2  
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 43 1 5 10 15  
 45 Ala Gly Val Asn Val Glu Thr Ile Arg Phe Tyr Gln Arg Lys Gly Leu  
 46 20 25 30  
 48 Leu Arg Glu Pro Asp Lys Pro Tyr Gly Ser Ile Arg Arg Tyr Gly Glu  
 49 35 40 45  
 51 Ala Asp Val Val Arg Val Lys Phe Val Lys Ser Ala Gln Arg Leu Gly  
 52 50 55 60  
 54 Phe Ser Leu Asp Glu Ile Ala Glu Leu Leu Arg Leu Asp Asp Gly Thr  
 55 65 70 75 80  
 57 His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val  
 58 85 90 95  
 60 Arg Glu Lys Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu  
 61 100 105 110

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63 Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Leu
64      115      120      125
66 Ile Ala Ser Leu Gln Gly Glu Ala Gly Leu Ala Arg Ser Ala Met Pro
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74 <211> LENGTH: 321
75 <212> TYPE: DNA
76 <213> ORGANISM: Artificial Sequence
78 <220> FEATURE:
79 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
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83 aagatggccg acttggcgcg catggaaacc gtgctgtctg aactcgtgtg cgctgccat 120
84 gcacgaaagg ggaatgtttc ctgcccgttg atcgcgtcac tacagggatc ctcaggcacc 180
85 cactgcgagg aggccagcag cctggccgaa cacaagctca aggacgtgcg cgagaagatg 240
86 gccgacttgg cgcgcatgga aaccgtgctg tctgaactcg tgtgcgcctg ccatgcacga 300
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91 <212> TYPE: PRT
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95 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
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98 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
99      1      5      10      15
101 Asp Val Arg Glu Lys Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu
102      20      25      30
104 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys
105      35      40      45
107 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
108      50      55      60
110 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Lys Met
111      65      70      75      80
113 Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys Ala
114      85      90      95
116 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
117      100      105      110
119 Pro Gln Phe Glu Lys
120      115
123 <210> SEQ ID NO: 5
124 <211> LENGTH: 117
125 <212> TYPE: PRT
126 <213> ORGANISM: Artificial Sequence
128 <220> FEATURE:
129 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
131 <400> SEQUENCE: 5
132 Met Thr His Cys Glu Glu Val Ser Ser Leu Ala Glu His Lys Leu Lys
133      1      5      10      15

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135 Asp Val Arg Glu Lys Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu
136          20          25          30
138 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys
139          35          40          45
141 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
142          50          55          60
144 Val Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Lys Met
145 65          70          75          80
147 Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys Ala
148          85          90          95
150 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
151          100          105          110
153 Pro Gln Phe Glu Lys
154          115
157 <210> SEQ ID NO: 6
158 <211> LENGTH: 118
159 <212> TYPE: PRT
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162 <220> FEATURE:
163 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
165 <400> SEQUENCE: 6
166 Met Thr His Cys Glu Glu Ala Ser Ser Leu Val Glu His Lys Leu Lys
167 1          5          10          15
169 Asp Val Arg Glu Lys Thr Met Ala Asp Leu Ala Arg Met Glu Thr Val
170          20          25          30
172 Leu Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser
173          35          40          45
175 Cys Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu
176          50          55          60
178 Glu Ala Ser Ser Leu Val Glu His Lys Leu Lys Asp Val Arg Glu Lys
179 65          70          75          80
181 Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys
182          85          90          95
184 Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser
185          100          105          110
187 His Pro Gln Phe Glu Lys
188          115
191 <210> SEQ ID NO: 7
192 <211> LENGTH: 117
193 <212> TYPE: PRT
194 <213> ORGANISM: Artificial Sequence
196 <220> FEATURE:
197 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
199 <400> SEQUENCE: 7
200 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
201 1          5          10          15
203 Asp Val Arg Glu Thr Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu
204          20          25          30
206 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys

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207          35          40          45
209 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
210          50          55          60
212 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Thr Met
213 65          70          75          80
215 Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys Ala
216          85          90          95
218 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
219          100          105          110
221 Pro Gln Phe Glu Lys
222          115
225 <210> SEQ ID NO: 8
226 <211> LENGTH: 117
227 <212> TYPE: PRT
228 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
231 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
233 <400> SEQUENCE: 8
234 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
235 1          5          10          15
237 Asp Val Arg Glu Gln Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu
238          20          25          30
240 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys
241          35          40          45
243 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
244          50          55          60
246 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Gln Met
247 65          70          75          80
249 Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys Ala
250          85          90          95
252 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
253          100          105          110
255 Pro Gln Phe Glu Lys
256          115
259 <210> SEQ ID NO: 9
260 <211> LENGTH: 117
261 <212> TYPE: PRT
262 <213> ORGANISM: Artificial Sequence
264 <220> FEATURE:
265 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
267 <400> SEQUENCE: 9
268 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
269 1          5          10          15
271 Asp Val Arg Glu Lys Met Ala Asp Leu Ala Arg Val Glu Thr Val Leu
272          20          25          30
274 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys
275          35          40          45
277 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
278          50          55          60

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Input Set : A:\79-00.app

Output Set: N:\CRF4\10092002\I977137A.raw

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280 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Lys Met
281   65              70              75              80
283 Ala Asp Leu Ala Arg Val Glu Thr Val Leu Ser Glu Leu Val Cys Ala
284              85              90              95
286 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
287              100              105              110
289 Pro Gln Phe Glu Lys
290              115
293 <210> SEQ ID NO: 10
294 <211> LENGTH: 117
295 <212> TYPE: PRT
296 <213> ORGANISM: Artificial Sequence
298 <220> FEATURE:
299 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
301 <400> SEQUENCE: 10
302 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
303   1              5              10              15
305 Asp Val Arg Glu Lys Met Ala Asp Leu Ala Arg Ile Glu Thr Val Leu
306              20              25              30
308 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Ser Cys
309              35              40              45
311 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
312   50              55              60
314 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Lys Met
315   65              70              75              80
317 Ala Asp Leu Ala Arg Ile Glu Thr Val Leu Ser Glu Leu Val Cys Ala
318              85              90              95
320 Cys His Ala Arg Lys Gly Asn Val Ser Cys Pro Ser Ala Trp Ser His
321              100              105              110
323 Pro Gln Phe Glu Lys
324              115
327 <210> SEQ ID NO: 11
328 <211> LENGTH: 117
329 <212> TYPE: PRT
330 <213> ORGANISM: Artificial Sequence
332 <220> FEATURE:
333 <223> OTHER INFORMATION: Description of Artificial Sequence: chelon
335 <400> SEQUENCE: 11
336 Met Thr His Cys Glu Glu Ala Ser Ser Leu Ala Glu His Lys Leu Lys
337   1              5              10              15
339 Asp Val Arg Glu Lys Met Ala Asp Leu Ala Arg Met Glu Thr Val Leu
340              20              25              30
342 Ser Glu Leu Val Cys Ala Cys His Ala Arg Lys Gly Asn Val Pro Cys
343              35              40              45
345 Pro Leu Ile Ala Ser Leu Gln Gly Ser Ser Gly Thr His Cys Glu Glu
346   50              55              60
348 Ala Ser Ser Leu Ala Glu His Lys Leu Lys Asp Val Arg Glu Lys Met
349   65              70              75              80
351 Ala Asp Leu Ala Arg Met Glu Thr Val Leu Ser Glu Leu Val Cys Ala

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SUMMARY  
CLIENT APPLICATION: US/09/977,137A

DATE: 10/09/2002  
TIME: 07:27:04

Input Set : A:\79-00.app

Output Set: N:\CRF4\10092002\I977137A.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number

file://C:\CRF4\Outhold\Vsri977137A.htm

10/9/02